

33. **(Reiterated)** The transfected cells of claim 32, wherein the cells are selected from blood cells, skeletal muscle cells, stem cells, skin cells, liver cells, secretory gland cells, hematopoietic cells, or marrow cells.

54. **(Amended)** A nucleic acid encoding a chimeric polypeptide having the structure A-B-C, wherein:

A represents a first fragment of serum albumin (SA);

B represents a biologically active peptide sequence; and,

C represents a second peptide fragment of SA;

wherein the chimeric polypeptide exhibits increased biological activity relative to said peptide sequence itself, and wherein said peptide sequence is heterologous to said serum albumin.

55. **(Amended)** A nucleic acid encoding a chimeric polypeptide, which polypeptide comprises:

a first peptide fragment, comprising an N-terminal fragment of serum albumin (SA) protein;

a second peptide fragment, comprising a biologically active peptide sequence; and,

a third peptide fragment, comprising a C-terminal fragment of SA;

wherein the chimeric polypeptide exhibits increased biological activity relative to said peptide sequence itself, and wherein said peptide sequence is heterologous to said serum albumin.

56. **(Amended)** The nucleic acid of claim 28, 54 or 55, wherein said peptide sequence comprises a fragment of an angiogenesis-inhibiting protein or polypeptide.

57. **(Amended)** The nucleic acid of claim 56, wherein said angiogenesis-inhibiting protein or polypeptide is selected from angiostatin, endostatin, or peptide fragments thereof.

58. **(Amended)** The nucleic acid of claim 28, 54 or 55, wherein said peptide sequence binds to a cell surface receptor protein.

59. **(Reiterated)** The nucleic acid of claim 58, wherein the receptor protein is a G-protein coupled receptor.

60. **(Reiterated)** The nucleic acid of claim 58, wherein the receptor protein is a tyrosine kinase receptor.
61. **(Reiterated)** The nucleic acid of claim 58, wherein the receptor protein is a cytokine receptor.
62. **(Reiterated)** The nucleic acid of claim 58, wherein the receptor protein is a MIRR receptor.
63. **(Reiterated)** The nucleic acid of claim 58, wherein the receptor protein is an orphan receptor.
64. **(Reiterated)** The nucleic acid of claim 28, 54 or 55, wherein the chimeric polypeptide binds to an extracellular receptor or an ion channel.
65. **(Reiterated)** The nucleic acid of claim 64, wherein the chimeric polypeptide is an agonist of said receptor or ion channel.
66. **(Reiterated)** The nucleic acid of claim 64, wherein the chimeric polypeptide is an antagonist of said receptor or ion channel.
67. **(Reiterated)** The nucleic acid of claim 28, 54 or 55, wherein the chimeric polypeptide induces apoptosis.
68. **(Reiterated)** The nucleic acid of claim 28, 54 or 55, wherein the chimeric polypeptide modulates cell proliferation.
69. **(Reiterated)** The nucleic acid of claim 28, 54 or 55, wherein the chimeric polypeptide modulates differentiation of cell types.
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70. **(Amended)** The nucleic acid of claim 28, 54 or 55, wherein said peptide sequence comprises between 4 and 400 residues.
71. **(Amended)** The nucleic acid of claim 28, 54 or 55, wherein said peptide sequence comprises between 4 and 200 residues.

72. (Amended) The nucleic acid of claim 28, 54 or 55, wherein said peptide sequence comprises between 4 and 100 residues.

73. (Amended) The nucleic acid of claim 28, 54 or 55, wherein said peptide sequence comprises between 4 and 20 residues.

74. (Reiterated) The nucleic acid of claim 28, 54 or 55, wherein the tertiary structure of the chimeric polypeptide is similar to the tertiary structure of native SA.

75. (Reiterated) The nucleic acid of claim 28, wherein the inserted peptide sequence replaces a portion of native SA sequence.

76. (Reiterated) The nucleic acid of claim 75, wherein the inserted peptide sequence and the replaced portion of native SA sequence are of unequal length.

77. (Amended) The nucleic acid of claim 28, 54 or 55, wherein the chimeric polypeptide is at least 10 times more active than said biologically active peptide sequence alone.

78. (Amended) The nucleic acid of claim 28, 54 or 55, wherein the chimeric polypeptide is at least 100 times more active than said biologically active peptide sequence alone.

79. (Amended) The nucleic acid of claim 28, 54 or 55, wherein the chimeric polypeptide is at least 1000 times more active than said biologically active peptide sequence alone.

80. (Amended) A nucleic acid encoding a chimeric polypeptide comprising serum albumin (SA) having at least two biologically active peptide sequences inserted therein, wherein at least one biologically active peptide sequence exhibits increased biological activity relative to said one biologically active peptide sequence itself, wherein said at least two biologically active peptide sequences are heterologous to said serum albumin.

81. (Amended) The nucleic acid of claim 80, wherein said at least two biologically active peptide sequences are identical.

82. (Amended) The nucleic acid of claim 80, wherein said at least two biologically active peptide sequences comprise distinct sequences of a protein.

83. **(Amended)** The nucleic acid of claim 80, wherein said at least two biologically active peptide sequences comprise sequences from at least two different proteins.
84. **(Amended)** The nucleic acid of claim 28, 54 or 55, wherein said peptide sequence is the myc epitope or the RGD peptide.
85. **(Amended)** The nucleic acid of claim 28, wherein said peptide sequence is inserted into a cysteine loop of the serum albumen protein.
86. **(Amended)** The nucleic acid of claim 85, wherein the cysteine loop is selected from Cys53-Cys62, Cys75-Cys91, Cys90-Cys101, Cys245-Cys253, Cys266-Cys279, Cys360-Cys369, Cys461-Cys477, Cys476-Cys487, or Cys558-Cys567.
87. **(Amended)** The nucleic acid of claim 75, wherein said peptide sequence replaces a portion of a cysteine loop of the serum albumen protein.
88. **(Amended)** The nucleic acid of claim 87, wherein the cysteine loop is selected from Cys53-Cys62, Cys75-Cys91, Cys90-Cys101, Cys245-Cys253, Cys266-Cys279, Cys360-Cys369, Cys461-Cys477, Cys476-Cys487, or Cys558-Cys567.

Please add the following new claims:

93. **(New)** The delivery vector of claim 29, 30 or 31, wherein said peptide sequence comprises between 4 and 100 residues.
94. **(New)** Transfected cells of claim 32 or 33, wherein said peptide sequence comprises between 4 and 100 residues.
95. **(New)** The nucleic acid of claim 56, wherein said peptide sequence comprises between 4 and 100 residues.
96. **(New)** The nucleic acid of claim 58, wherein said peptide sequence comprises between 4 and 100 residues.

97. (New) The nucleic acid of claim 78, wherein said peptide sequence comprises between 4 and 100 residues.
98. (New) The nucleic acid of claim 75, 80, 82, 83, 85, 86, 87, or 88, wherein said peptide sequence comprises between 4 and 100 residues.
99. (New) The delivery vector of claim 29, 30 or 31, wherein said peptide sequence comprises between 4 and 20 residues.
100. (New) Transfected cells of claim 32 or 33, wherein said peptide sequence comprises between 4 and 20 residues.
101. (New) The nucleic acid of claim 56, wherein said peptide sequence comprises between 4 and 20 residues.
102. (New) The nucleic acid of claim 58, wherein said peptide sequence comprises between 4 and 20 residues.
103. (New) The nucleic acid of claim 78, wherein said peptide sequence comprises between 4 and 20 residues.
104. (New) The nucleic acid of claim 75, 80, 82, 83, 85, 86, 87, or 88, wherein said peptide sequence comprises between 4 and 20 residues.

*The claims presented above incorporate changes as indicated by the marked-up versions below.*

28. (Amended) A nucleic acid encoding a chimeric polypeptide comprising serum albumin protein (SA) having a biologically active ~~heterologous~~ peptide sequence inserted therein, wherein the chimeric polypeptide exhibits increased biological activity relative to ~~the~~ heterologous said peptide sequence itself, wherein said peptide sequence is heterologous to said serum albumin protein.
54. (Amended) A nucleic acid encoding a chimeric polypeptide having the structure A-B-C, wherein:  
A represents a first fragment of serum albumin (SA);

B represents a biologically active ~~heterologous~~ peptide sequence; and,  
C represents a second peptide fragment of SA;  
wherein the chimeric polypeptide exhibits increased biological activity relative to ~~the~~  
~~heterologous~~ said peptide sequence itself, and wherein said peptide sequence is heterologous  
to said serum albumin.

55. **(Amended)** A nucleic acid encoding a chimeric polypeptide, which polypeptide comprises:  
a first peptide fragment, comprising an N-terminal fragment of serum albumin (SA)  
protein;  
a second peptide fragment, comprising a biologically active ~~heterologous~~ peptide  
sequence; and,  
a third peptide fragment, comprising a C-terminal fragment of SA;  
wherein the chimeric polypeptide exhibits increased biological activity relative to ~~the~~  
~~heterologous~~ said peptide sequence itself, and wherein said peptide sequence is heterologous  
to said serum albumin.
56. **(Amended)** The nucleic acid of claim 28, 54 or 55, wherein ~~the heterologous~~ said peptide  
sequence comprises a fragment of an angiogenesis-inhibiting protein or polypeptide.
57. **(Amended)** The nucleic acid of claim 56, wherein said angiogenesis-inhibiting protein or  
polypeptide is selected from angiostatin, endostatin, ~~and~~ or peptide fragments thereof.
58. **(Amended)** The nucleic acid of claim 28, 54 or 55, wherein ~~the heterologous~~ said peptide  
sequence binds to a cell surface receptor protein.
70. **(Amended)** The nucleic acid of claim 28, 54 or 55, wherein ~~the heterologous~~ said peptide  
sequence comprises between 4 and 400 residues.
71. **(Amended)** The nucleic acid of claim 28, 54 or 55, wherein ~~the heterologous~~ said peptide  
sequence comprises between 4 and 200 residues.
72. **(Amended)** The nucleic acid of claim 28, 54 or 55, wherein ~~the heterologous~~ said peptide  
sequence comprises between 4 and 100 residues.

73. (Amended) The nucleic acid of claim 28, 54 or 55, wherein ~~the heterologous~~ said peptide sequence comprises between 4 and 20 residues.
77. (Amended) The nucleic acid of claim 28, 54 or 55, wherein the chimeric polypeptide is at least 10 times more active than ~~the~~ said biologically active ~~heterologous~~ peptide sequence alone.
78. (Amended) The nucleic acid of claim 28, 54 or 55, wherein the chimeric polypeptide is at least 100 times more active than ~~the~~ said biologically active ~~heterologous~~ peptide sequence alone.
79. (Amended) The nucleic acid of claim 28, 54 or 55, wherein the chimeric polypeptide is at least 1000 times more active than ~~the~~ said biologically active ~~heterologous~~ peptide sequence alone.
80. (Amended) A nucleic acid encoding a chimeric polypeptide comprising serum albumin (SA) having at least two biologically active ~~heterologous~~ peptide sequences inserted therein, wherein at least one biologically active ~~heterologous~~ peptide sequence exhibits increased biological activity relative to said one biologically active ~~heterologous~~ peptide sequence itself, wherein said at least two biologically active peptide sequences are heterologous to said serum albumin.
81. (Amended) The nucleic acid of claim 80, wherein ~~the heterologous~~ said at least two biologically active peptide sequences are identical.
82. (Amended) The nucleic acid of claim 80, wherein ~~the heterologous~~ said at least two biologically active peptide sequences comprise distinct sequences of a protein.
83. (Amended) The nucleic acid of claim 80, wherein ~~the heterologous~~ said at least two biologically active peptide sequences comprise sequences from at least two different proteins.
84. (Amended) The nucleic acid of claim 28, 54 or 55, wherein ~~the biologically active heterologous peptide~~ said peptide sequence is the myc epitope or the RGD peptide.

85. **(Amended)** The nucleic acid of claim 28, wherein ~~the biologically active heterologous peptide~~ said peptide sequence is inserted into a cysteine loop of the serum albumen protein.
86. **(Amended)** The nucleic acid of claim 85, wherein the cysteine loop is selected from Cys53-Cys62, Cys75-Cys91, Cys90-Cys101, Cys245-Cys253, Cys266-Cys279, Cys360-Cys369, Cys461-Cys477, Cys476-Cys487, ~~and~~ or Cys558-Cys567.
87. **(Amended)** The nucleic acid of claim 75, wherein ~~the biologically active heterologous peptide~~ said peptide sequence replaces a portion of a cysteine loop of the serum albumen protein.
88. **(Amended)** The nucleic acid of claim 87, wherein the cysteine loop is selected from Cys53-Cys62, Cys75-Cys91, Cys90-Cys101, Cys245-Cys253, Cys266-Cys279, Cys360-Cys369, Cys461-Cys477, Cys476-Cys487, ~~and~~ or Cys558-Cys567.